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Title: Crystal structure, Raman spectroscopy and microwave dielectric properties of $x\text{Ba}_3\text{MgNb}_2\text{O}_9-(1-x)\text{Ba}_2\text{InNbO}_6$ [$x = 0.4, 0.6, 0.8$]

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Crystal structure, Raman spectroscopy and microwave dielectric properties of $x\text{Ba}_3\text{MgNb}_2\text{O}_9-(1-x)\text{Ba}_2\text{InNbO}_6$ [$x = 0.4, 0.6, 0.8$]

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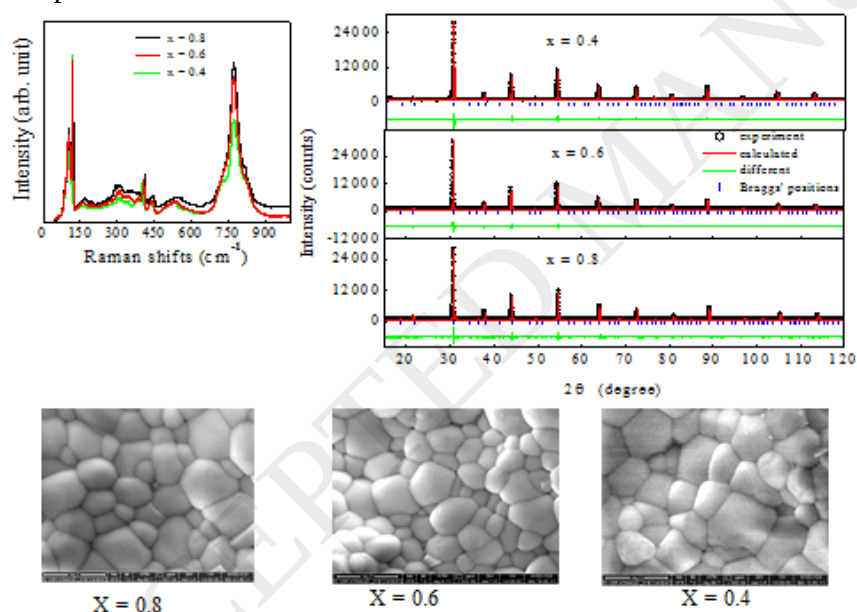
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Graphical abstract



Highlights

- $x\text{Ba}_3\text{MgNb}_2\text{O}_9-(1-x)\text{Ba}_2\text{InNbO}_6$ [$x = 0.4, 0.6, 0.8$] are synthesized for the first time.
- Tetragonal crystal symmetry confirms from Rietveld refinement of XRD & Raman spectra.
- τ_f linear with octahedral-distortion. Variation of Q_f with FWHM of $\nu_1(\text{O})$ is analyzed.
- Mixing of BIN with BMN improves the microwave dielectric properties of BMN.
- For all the materials $\epsilon_r > 36$ and $x = 0.4$ and 0.8 materials show high Q_f value than BMN.

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